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# PUBLIC HEALTH RESEARCH

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## The correlation between behavior intention and family support on adult pulmonary TB patients in Central Jakarta

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### ABSTRACT

<b>Received</b>	18 January 2019
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<b>Introduction</b>	The prevalence rate of pulmonary tuberculosis (TB) in Jakarta reaches 0.6%. It is ranked the second largest after West Java (0.7%). To deal the illness, tuberculosis patients need their family support. The general aim of this study is to measure the family support in adult pulmonary tuberculosis patients in Central Jakarta.
<b>Methods</b>	The research is an analytical research and cross sectional design. The study population are the treatment supporter of adult pulmonary tuberculosis in Central Jakarta area. The subject of the study are the treatment supporter recorded in the YARSI TB care database. The number of samples are determined by quota sampling. The data collected is quantitative data.
<b>Results</b>	The respondents involved are 51 people, aged between 17-71 years old. Male respondents are 20 people (39.2%) and female respondents are 31 people (60.3%). The majority of the respondents' education level is senior high school (70,6%) graduates. The treatment supporters living with the patients are about 45,1%. Family support is good, about 54,9%. Bivariate analysis showed p value=0,033 (correlation between behavior intention and family support).
<b>Conclusions</b>	Behavior intention is significantly correlated with the behavior of family support in adult pulmonary tuberculosis patients Motivation and persuasive action are required to maximize the support for pulmonary tuberculosis patients.
<b>Keywords</b>	Treatment supporter - Behavior - Pulmonary TB.

### INTRODUCTION

Pulmonary tuberculosis (pulmonary TB) is one of the airborne diseases. Based on the results of Basic Health Research, the prevalence of pulmonary tuberculosis in Indonesia has reached 0.4%.<sup>1</sup> Pulmonary TB has caused the death of 64,000 inhabitants. Mean while, the number of multidrug resistance TB (MDR TB) cases are estimated at 6,800 per year and it is increasing every year.<sup>2</sup> Increasing cases of MDR TB are caused by TB patients who do not complete their treatments (drop out). The number of this drop out cases in Indonesia is still high, at 47.9%.<sup>3</sup>

In Jakarta, the prevalence rate of pulmonary TB has reached 0.6% which was ranked the second largest after West Java (0.7%).<sup>1</sup> Pulmonary TB management at Cempaka Putih Public Health Center, Central Jakarta shows 77.14% of Case Detection Rate (CDR). However, the convention rate and cure rate has not reached the target of 55.55% and 22.22% each.<sup>4</sup> The success of pulmonary TB treatment can be improved if the doctors are able to make a holistic diagnosis. According to Hancock & Perkins, in the theory of Mandala of Health, biological factors, behavior, psychosocial and physical environment will affect one's health. In addition, individual health is also influenced by family, lifestyle, health care system, community, biosphere and culture.<sup>5</sup>

One of the impacts can be caused by pulmonary TB is psychosocial impact. Patients diagnosed with pulmonary TB will become sadder, worried about losing their jobs and feel alienated by the people around them.<sup>6</sup> TB sufferers feel that their friends and colleagues keep their distance due to the prejudice that TB patient is a vector of TB transmission. This results in a psychosocial harm because TB patients tend to withdraw themselves away from the social environment. And TB patients may also experience obstacles in their work because of their health conditions that require an intensive care.<sup>7</sup>

In dealing with their illness, TB patients need to get supports from their families.<sup>8</sup> The study on TB treatment adherence has shown that families play a big role in reducing dropout rates for TB treatment. Families that support pulmonary TB patients will pay attention to TB patients, assist in their daily activities, assist in their medication and provide moral support and motivation for them to heal.<sup>9</sup>

Survey results in Indonesia on family support indicated that 96% of family took care of their TB patients in the family. This is in line with studies in Bangladesh, that most pulmonary TB patients also got support from their family, but the other 46.6% have received discriminate treatment in the use of the cutlery.<sup>6</sup> Meanwhile, qualitative research in India says that women with pulmonary

TB received less family supports than men with pulmonary TB.<sup>10</sup>

Family behavior towards people with pulmonary TB is influenced by several things. According to Snehendu B.Kar, behavior is influenced by 5 things: behavior intention, social-support, accessibility of information, personal autonomy and action situation.<sup>11</sup> For example, the myths about the cause of pulmonary TB are still found in the community. They believe that pulmonary TB is occurred due to noninfectious factors such as sleeping on the floor or sleeping late at night.<sup>12</sup> In order to eliminate such myths in the communities, the role of health workers is required so that people will get the correct information about pulmonary TB. The role of health workers in providing such information is included in the information accessibility factor.

Researches or studies on family support for pulmonary TB patients has been widely practiced. However, research with similar topics in Jakarta are still minimum. In addition, actions related to family support behavior for TB patients are also rarely performed.

### METHODS

This research is an analytical research with cross sectional design. Quantitative methods were collected through surveys by filling out questionnaires.

The research population is treatment supporter in Central Jakarta area. The subject of the study is the treatment supporter recorded in the YARSI TB care database. The inclusion criteria for treatment supporter respondents are aged above 17 years and patients accompanies of pulmonary TB aged above 17 years. Exclusion criteria are individuals who refuse to participate or are uncooperative. The number of samples is determined by quota sampling. Samples taken as many as 51 respondents because the estimated number of patients with new pulmonary TB are about 40-50 patients in 3 months (according to the time of data collection).

The data findings are quantitative data. Questionnaire filling out is used to collect the quantitative data. Prior to use, a trial is performed against the questionnaire. Respondents (patients with adult pulmonary TB and treatment supporter) filled out questionnaires with Likert scale. Respondents filled out questionnaires about the family support behavior for pulmonary TB patients and the factors that are suspected to affect them. The characteristics correlation of treatment supporter and patient with the family support was analyzed by Mann-Whitney test. The correlation of predictor factors with family support behaviors was analyzed by Spearman correlation test.

**Table 1** Operational definition

Name of Variables	Definition	Measurement process
Family support on pulmonary TB patient	The efforts or roles performed by the family for the life and health of adult pulmonary TB patients, viewed from the aspect of emotional support (giving attention, giving a sense of comfort and accompanying the patient especially when sad), appreciation support (motivate patients, treat patients the same as others), instrumental support (assisting patients in need) and informational support (reminding and checking patients taking medication, control and checking sputum)	Interview, 4 answers provided 1 = never 2 = rare 3 = often 4 = always
Behavior Intention	A person's tendency to support a TB patient seen from his/her beliefs can help the patient's recovery and belief that the patient needs his/her support	Interview, 4 answers provided 1 = Totally disagree 2 = Disagree 3 = Agree 4 = Totally agree
Social Support	A network of families, neighbors and community members can provide assistance to treatment supporter in terms of providing encouragement and assistance in helping TB patients	
Accessibility of Information	The presence or absence of complete and clear information obtained about health or health facilities	
Personal Autonomy	The private autonomy in taking action or making a decision where coercion against the treatment supporter in supporting TB patient may occur.	
Action Situation	Possibilities situations for taking action or not and the presence or absence of facilities in supporting TB patients	

## RESULTS

The respondents (treatment supporter) involved are as many as 51 people aged between 17-71 years. The

following table shows the results of univariate and bivariate analyzes.

**Table 2** Respondent (treatment supporter) Characteristics

Characteristics	Total	Percentage
Age	Mean 34,7 years old	
Gender		
Male	20	39,2%
Female	31	60,8%
Education		
Elementary	4	7,8%
Junior High	10	19,6%
Senior High	36	70,6%
Undergraduate (S1)	1	2,0%
Income		
Low (< Rp 3.200.000)	34	66,7%
Fair (Rp 3.200.000)	12	23,5%
High (> Rp 3.200.000)	5	9,8%
Residence		
With TB patient	23	45,1%
Separate residence from TB patient	28	54,9%

**Table 3** Patient Characteristics

Characteristics	Total	Percentage
Age	Mean 38,7 years old	
Gender		
Male	26	51%
Female	25	49%

## Behavior and Family support on TB patients

Education		
Elementary	1	2,0%
Junior High	8	15,7%
Senior High	16	31,4%
Undergraduate (S1)	26	51%
Income		
Low (< Rp 3.200.000)	37	72,5%
Fair (Rp 3.200.000)	9	17,6%
High (> Rp 3.200.000)	5	9,8%

**Table 4** Description of family support behavior on adult pulmonary TB patients

Family support behavior	Total (%)
Good	28 (54,9%)
Less good	23 (45,1%)

**Table 5** Bivariate analysis: characteristics patient/ treatment supporter with family support

Characteristics	p
Treatment supporter's gender	IS
Treatment supporter's education	IS
Treatment supporter's income	IS
Treatment supporter's residence	IS
Patient's gender	IS
Patient's education	IS
Patient's income	IS

*Description: IS = insignificant*

**Table 6** Bivariate analysis: independent variables and family support

Independent variable	p
Behavior intention	0,033
Social support	IS
Accessibility of information	IS
Personal autonomy	IS
Action situation	IS

*Description: IS = insignificant*

**Table 7** The distribution of treatment supporter's behaviour

Behaviour	Score
Attention to patients	3,51
Giving comfort	3,55
Try to understand feelings	3,53
Showing understanding	3,49
Entertaining patients	3,51
Foster a feeling of patient confidence	3,61
Accompany patients especially when patients feel sad	3,37
Motivate patients	3,69
Treating patients is like treating other family members	3,43
Helping patients when they need it	3,57
Remind patients to take medication	3,63
Check whether the patient has taken medication or not	3,51
Fill in the control card	3,37
Remind patients to check phlegm on schedule	3,53

Treatment supporter are majority women (31 people or 60.8%). Treatment supporter education is from elementary to undergraduate (majority of senior high school 70,6%). Treatment supporter living with patients are 23 people (45,1%) and in separate residence are 28 people (54,9%). Questions used to measure family support are as many as 14 questions with answer choices: always, often, rarely and never. The median score is 51. Good support behavior are 28 people (54.9%) and less support behavior are 23 people (45.1%). The characteristics of treatment supporter and patient are not correlated to the family support behavior. There are no differences in support of pulmonary TB patients in Central Jakarta based on treatment supporter or patient characteristics. Behavior intention is a predictor of family support behavior ( $p = 0.033$ ).

Table 7 shows that the behavior of the lowest supporter of treatment is filling the control card. While the highest behavior is motivating patients.

## DISCUSSION

The family support behavior on TB patients is good in majority (54.9%). This suggests that the majority of TB patients get support from their family. The study by Sulistyawati in RS PKU Muhammadiyah Yogyakarta is also said that more TB patients get good family support than bad family support.<sup>13</sup>

However, this is different from Murtiwi's research on pulmonary TB patients in Indonesia who said that the majority of treatment supporter did not support patients. The study showed that as many as 66.6% of patients stated that no one reminded them to take pulmonary TB medicine. Patients who stated that they had never been reminded of control to a health care center as much as 64.2%, while almost all patients stated that they had never been monitored when ingesting drugs as much as 97%.

Tasks that the most treatment supporters do not do is provide counseling to families who live with the sufferer and record on the control card. The recording on the drug swallow monitoring card was not carried out by the treatment supporter, to remind the patient to swallow the medicine, most treatment supporter used the calendar system (marking the date on the calendar attached to the house). As for motivation for TB sufferers, they are advice on the importance of healing for sufferers.<sup>14</sup>

Febrina W and Rahmi A at the Ophir Health Center, West Sumatra found the function of treatment supporters as motivators, warning that re-examination of sputum and supervising treatment had been maximized. Whereas the role as educator is not optimal. The forms of motivation given include moral support and hope for healing for patients. Support for sputum examination includes reminding and delivering sputum for examination if the patient is unable to deliver on the inspection

schedule. Drug supervision support, among others, the role of medical supervision can be identified from the availability of drugs according to the needs of patients, reminding them in order to take medication regularly, and monitoring if there are symptoms of drug side effects. The role of the educator that needs to be optimized is an understanding of the rules for taking medicine.<sup>15</sup>

In this study there are no differences in the support of TB patients based on the characteristics of the respondents. This is because the treatment supporter has received training and motivation from YARSI TB care and TB cadres. The DOTS strategy (Direct Observed Treatment Short-course) which involves the community, among others by forming community TB cadres that function as the treatment supporter, extensionist, motivator, companion of treatment supporter, finding TB suspects and TB counselors are YARSI TB care concrete contribution of YARSI concern in TB control.<sup>16</sup>

Logistics regression showed that behavior intention was significantly correlated with the family support behavior on adult pulmonary TB patients. Widjanarko B, Prabamurti PN and Widyaningsih N., in 2015 conducted research on factors that influence the practice of treatment supporter in Semarang City and found that attitude is the most influential variable. The characteristics of treatment supporter are not related to the behavior of treatment supporter in monitoring tuberculosis sufferers.<sup>17</sup>

According to the theory of Snehendu B. Kar<sup>11</sup>, the behavior of either family or patient is influenced by the behavior intention that is the intention of someone to act. The stronger the intention, the more real the behavior (action) will be. So, intention is directly proportional to the behavior. According to Azwar<sup>18</sup>, the tendency of someone to act on something is included in the attitude components, that is the conative component. The conative component is an attitude component in the form of a person's readiness to behave (act) which is correlated to the attitude object.

Other studies are needed to explain the phenomenon of family support on adult pulmonary TB patients, among others, in the form of qualitative research so that problems can be detected and then solved in providing further family support. In addition, experimental research can also be conducted to find the best method in accompanying treatment supporter.

## CONCLUSION

Good support is majority behavior between respondents. Behavior intention is a predictor of the family support behavior on adult pulmonary TB patients in Central Jakarta. Through continuous support and motivation on treatment supporter, it is expected to improve the behavior intention and family support on adult pulmonary TB patients.

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